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Daniel Clark Orey, Ph.D., is Associate Professor in the Departamento de Educação Matemática in the Instituto de Ciências Exatas e Biológicas at the Universidade Federal de Ouro Preto. As well he is Professor Emeritus of Multicultural Education and Mathematics at California State University, Sacramento, where he served in the teaching profession from 1987 to January 2011. At that same university he was an instructor in the Department of Learning Skills Department of Skills Learning) and was a faculty member in the Doctoral Program in Educational Leadership. As Coordinator and Principal Investigator of the Algorithm Collection Project, Dr. Orey is interested in studying the various ways in which newly arrived immigrants in California communities think, reason, and calculate mathematically. Dr. Orey graduated from Oregon State University in 1978 and began teaching math at Monitor Elementary School in Mount Angel, Oregon. Subsequently, he also taught the same discipline at the following schools: Riverdale School, Portland, Oregon; American College of Guatemala, in Guatemala City and at the Escuela Americana, in Bananera, Guatemala. Dr. Orey earned a PhD in Curriculum and Instruction in Multicultural Education from the University of New Mexico in 1988. Both master's and doctoral research were funded by the Mellon-Tinker Institution. During his doctoral research, Dr. Orey served as a consultant at the American College of Puebla and the Apple of Mexico. In 1992, Dr. Orey played an important role in founding the International Society for Child Studies, in which he served as general secretary for several terms. He is currently the vice president of this institution. From 1995 to 1998, Dr. Orey was the director of Professional Development and the Center for Teaching and Learning at California State University, Sacramento. In 1998, at the invitation of Prof. Ubiratan D'Ambrosio, Dr. Orey served as a Fulbright Scholar at PUC in Campinas, where he conducted research in classrooms and taught courses in ethnomathematics and modeling. During the 2005-2006 school year, Dr. Orey served as visiting professor-researcher, sponsored by CNPq, in the area of mathematics education, in ethnomathematics, at the Universidade Federal de Ouro Preto. In 2007, Dr. Orey served as Senior Fulbright Specialist at Kathmandu University, Nepal, conducting lectures on topics related to Mathematics Education and lecturing on ethnomathematics and modeling. He speaks and writes fluently in English, Portuguese and Spanish.

Qualifications / Professional Experience Daniel Orey:

Since 2011: Associate Professor in the Departamento de Educação Matemática, Instituto de Ciências Exatas e Biológicas, Universidade Federal de Ouro Preto, <http://deema.ufop.br/>

Since 2011: Professor Emeritus, California State University, Sacramento

1987--2011: Professor, Department of Teacher Education, College of Education, California State University, Sacramento

2006: Fulbright Senior Scholar – Kathmandu University – Ethnomathematics

1998: Fulbright Scholar – Pontifícia Universidade Católica de Campinas, Brasil – Ethnomathematics & Mathematical Modeling

1983-1988: Ph.D. Education. The University of New México, USA. Title: Logo Programming Language in a Mexican Primary School: Relationships to Cognition, Geometric Skills, and Computer Attitudes (Puebla, México), Advisor: Patrick Scott. Research Sponsored by The University of New México, Mellon/Tinker International Field Research Grant; Title VII Bilingual Graduate Fellow

1982 – 1983: Masters in Curriculum and Instruction. New Mexico State University, USA. Title: Mellon-Tinker Work in Guatemala with Logo Programming Language and a Highland

Maya Village (Patzún, Chimaltenango, Guatemala). Advisor: Luiza Amodeo.
Research Sponsored by: New Mexico State University USA. Mellon/Tinker International Field Research Grant

1978-1979: Monitor Elementary School in Mount Angel, Oregon, USA.

1979-1981: Riverdale School, Portland, Oregon, USA.

1981-1982: American College of Guatemala, in Guatemala City and the Escuela Americana, in Bananera, Guatemala.

1973 – 1978: Bachelors of Science in Elementary Education. Oregon State University, USA.

1969 – 1973: Grants Pass High School, Grants Pass, Oregon, USA.

Research Interests:

- Ethnomathematics
- Etnomodeling
- Cross-Cultural / Multicultural Education
- Mathematics Education and Teacher Training,
- Mathematical Modelling in School and University contexts

Research Projects:

Since 2016 - La Educación Matemática en Contexto de la Interculturalidad. Coordinador Anahí Huencho. Pontificia Universidad Católica de Chile.

Since 2015: Sponsored Univeristy Scholarship "Edital Auxilio Pesquisador"

R\$7000.00/year; Financiador(es): Universidade Federal de Ouro Preto - Remuneração.

Since 2014: Ethnomodeling in Diverse Cultural Practices; Participant. With Kathmandu University; Universidade Federal de Ouro Preto and University of Toledo.

2013- 2014: As novas tecnologias como uma ação pedagógica para as práticas curriculares de matemática (New Technologies As A Pedagogical Action For Curricular Practices of Mathematics).

2012 – 2013: Program Jovens Talentos Para Ciência (Young Talents For Science).

Description: A Trilha das Matemáticas de Ouro Preto"/"The Ouro Preto Math Trail". The activities were created and organized during the development of the project. Scholars assisted with the elaboration of some mathematical models, collection and data analysis, organization of a website and production of an article for publication. Daniel Clark Orey - Coordenador.

Since 2011: Etnomodelagem: Um conceito de pesquisa para a etnomatemática e a modelagem (Ethnomodeling: A research concept for ethnomathematics and modeling).

Since 2011: A Perspectiva Sociocultural Da História Da Matemática Como Uma Ação Pedagógica Para O Ensino E Aprendizagem Em Matemática (A Sociocultural Perspective of the History of Mathematics as a Pedagogical Action for Teaching and Learning in Mathematics).

Since 2011 – Membro de Grupo de Trabalho (Working Group) UFJF/UFOP/UFSJ to develop a new doctorate in mathematics education.

2010 – 2012: The Effectiveness of a Suggested Program in Developing Mathematics Teachers Performance in the Light of Performance Standards. Description: The project aims to examine the effectiveness of a suggested program in developing the performance of Mathematics Teachers at Saudi Arabia in the light of the international standards of Mathematics Teacher Performance. Then, the researchers well be conducted A list of The

Since 2005 - Coordinator, A Trilha da Matemática de Ouro Preto (The Ouro Preto Math Trail

1999 - 2013: Coordinator, The Algorithm Collection Project. An in-depth study of the type of algorithms used by newly arrived immigrants to California. An important goal of this project is to contribute data that will enable the development of a viable working model for facility with basic mathematics across cultures. Financed by the California State University (System).

<https://sites.google.com/site/algorithmcollectionproject/home> .

2009 – 2012: Coordinator, The Math Trail at California State University, Sacramento.
Description: What you see here is a modest collection of work from my students at California State University, Sacramento.

1984 – 1987: Computer Teacher Training Program - Albuquerque Public Schools. My work involved instruction for teachers and UNM students in the introductory use of microcomputers in the classroom..

1984 – 1987: Teacher Computer Training Program - Espanola, New Mexico. Participant and Computer and Technology Consultant and Instructor for teachers in Española, New Mexico.

1984 – 1987: Navajo Teacher Training Program - Mathematics Methods Teacher. Participant and Mathematics Methods Instructor for 35 Navajo teachers.

1983 – 1984: Logo Microcomputer Van Project - Texas Instruments / NMSU. A collaborative project between Texas Instruments, the Museum of New Mexico/International Space Hall of Fame and New Mexico State University that allowed for communities in West Texas, New Mexico, Arizona and Southern Colorado to experience their first microcomputer experience. Both teacher in-services, student workshops and parent night/family nights were given to over 150 diverse school communities.

Most Recent Publications:

1. Rosa, M & Orey, D. C. Developing Critical and Reflective Dimensions of Mathematical Modeling in Virtual Learning Environments. *EDUCAÇÃO MATEMÁTICA EM FOCO (UFPB)*, v. 5, p. 52-72, 2017.
2. Rosa, M & Orey, D. C. Polysemic Interactions of Ethnomathematics: An Overview. *ETD: EDUCAÇÃO TEMÁTICA DIGITAL*, v. 19, p. 589-621, 2017.
3. Orey, D. C. Rosa, M., Editorial: Explorando o conhecimento matemático através das conexões polissêmicas da etnomatemática. *ETD: EDUCAÇÃO TEMÁTICA DIGITAL*, v. 19, p. 584-588, 2017.
4. Rosa, M & Orey, D. C. Humanizing Mathematics through Ethnomodelling. *Journal of Humanistic Mathematics*, v. 6, p. 3-22, 2016.
5. Orey, D. C. Rosa, M., Ethnomodelling: Exploring Glocalization in the Contexts of Local (Emic) and Global (Etic) knowledges. *International Journal for Research in Mathematics Education*, v. 6, p. 196-218, 2016.
6. Rosa, M & Orey, D. C. Reflecting on Ethnomathematics as Pedagogical Action in the Mathematics Curriculum. *International Journal for Research in Mathematics Education*, v. 6, p. 157-177, 2016.
7. Orey, D. C. Rosa, M., Editorial - Ethnomathematics: Walking the Mystical Path with Practical Feet. *International Journal for Research in Mathematics Education*, v. 6, p. 2-7, 2016.
8. Orey, D. C. Rosa, M., Ethnomodelling as a Creative Insubordination Approach in Mathematics Education. *Journal of Mathematics and Culture*, v. 10, p. 111-134, 2016.
9. Orey, D. C. Rosa, M., Encontros polissêmicos entre educação financeira e a etnomatemática: um ensaio teórico. *Boletim online de Educação Matemática*, v. 4, p. 139-162, 2016.
10. Rosa, M & Orey, D. C. A Trivium Curriculum for mathematics based on literacy, Matheracy, and Technoracy: an Ethnomathematics Perspective. *ZDM (Berlin. Print)*, v. 47, p. 587-598, 2015.
11. Orey, D. C. Rosa, M., Three approaches in the research field of ethnomodeling: emic (local), etic (global), and dialogical (glocal). *RLE (Pasto)*, v. 8, p. 364-380, 2015.
12. Orey, D. C. Rosa, M., Long distance education: Democratizing higher education access in Brazil. *Mathematics Education and Society*, v. 3, p. 846-859, 2015.

13. Rosa, M & Orey, D. C. Ethnomathematics: Connecting cultural aspects of mathematics through culturally relevant pedagogy. *Mathematics Education and Society*, v. 3, p. 898-911, 2015.

14. Orey, D. C. Rosa, M., Paulo, D. Delineando e Conduzindo o Método Misto de Pesquisa em Investigações em Educação Matemática. *Perspectiva em Educação Matemática*, v. 8, p. 749-769, 2015.

Books:

1. Rosa, M & Orey, D. C. Etnomodelagem: a arte de traduzir práticas matemáticas locais. 1. ed. São Paulo: Editora Livraria da Física, 2017. v. 1. 178p .

2. Orey, D. C. Rosa, M., (Org.) ; D'Ambrosio, U. (Org.) ; ALANGUI, W. V. (Org.) ; SHIRLEY, L. (Org.) ; PALHARES, P. (Org.) ; GAVARRETE, M. E. (Org.) . *Current and Future Perspectives of Ethnomathematics as a Program*. 1. ed. Hamburg: Springer Open, 2016. v. 1. 45p .

3. Orey, D. C. Rosa, M., (Org.) ; OLIVERAS, M. L. (Org.) . *Proceedings of the 5th International Congress on Ethnomathematics*. 1. ed. Toledo, Ohio: NASGEm North American Study Group on Ethnomathematics, 2014. v. 8. 1p .

4. Rosa, M & Orey, D. C. *Anais do Primeiro Seminário Paulista de História e Educação Matemática - SPHEM1*. 1. ed. São Paulo: IME-USP, 2005. v. 1. 1p .

5. Orey, D. C. Rosa, M., *Etnomatemática como Ação Pedagógica*. 1. ed. Natal, RN: Apoio: UFRN;CNPq; FUNEPEC/UFRN; CCET; Depto. de Matematica/UFRN;PPGEd/UFRN; PPGECNM-CCET/UFRN, 2004. v. 1. 98p .

6. Orey, D. C. Rosa, M., *Ciências de Natureza e Matemática: Trigonometria - Linguagem e Instrumento*. 1. ed. São Paulo: Escolas Associadas Pueri Domus, 2003. v. 1. 32p .

7. Orey, D. C. Rosa, M., *Ciências de Natureza e Matemática: Modelação Algébrica*. Escolas Associadas Pueri Domus: São Paulo.. 1. ed. São Paulo: Escolas Associadas Pueri Domus, 2002. 33p .

Chapters in Books:

1. Rosa, M, Orey, D. C.; BELLO, S. L. ; APPELBAUM, P. ; STATHOPOULOU, C. ; SWANSON, D. ; FAVILLI, F. ; TORIANO, F. ; KLEIN, R. ; AMIRIT, M. . *Ethnomathematics Meets Curriculum Theory Through Crisis*. In: Ana Chronaki. (Org.). *Responsible Subversion & Emic Perception*. 1ed.Vólos: University of Thessaly Press, 2017, v. 1, p. 143-148.

2. Orey, D. C. Rosa, M. *Developing Critical and Reflective Dimensions of Mathematical Modelling*. In: Ana Chronaki. (Org.). *Mathematics Education and Life at Times of Crisis*. 1ed.Vólos: University of Thessaly Press, 2017, v. 2, p. 771-782.

3. Rosa, M & Orey, D. C. *Creative Insubordination Aspects Found in Ethnomodeling*. In: Ana Chronaki. (Org.). *Mathematics Education and Life at Times of Crisis*. 1ed.Vólos: University of Thessaly Press, 2017, v. 2, p. 812-822.

4. Orey, D. C. Rosa, M. *Developing Mathematical Modeling in Virtual Learning Environments by Applying Critical and Reflective Dimensions*. *Learning Environments: Emerging Theories, Applications and Future Directions*. 1ed.New York: Nova Science Publishers, 2016, v. 1, p. 1-20.

5. Rosa, M & Orey, D. C. *State of the Art in Ethnomathematics*. In: Milton Rosa, Lawrence Shirley, Ubiratan D'Ambrosio, Daniel Clark Orey, Wilfredo V. Alanguí, Pedro Palhares, Maria Elena Gavarrete. (Org.). *Current and Future Perspectives of Ethnomathematics as a Program*. 1ed.Hamburg: Springer Open, 2016, v. 1, p. 11-13.

6. Orey, D. C. Rosa, M. *Innovative Approaches in Ethnomathematics*. In: Milton Rosa, Lawrence Shirley, Ubiratan D'Ambrosio, Daniel Clark Orey, Wilfredo V. Alanguí, Pedro Palhares, Maria Elena Gavarrete. (Org.). *Innovative Approaches in Ethnomathematics*. 1ed.Hamburg: Springer Open, 2016, v. 1, p. 18-30.

7. Orey, D. C. Rosa, M. Etnomodelagem: Uma relação dialógica entre etnomatemática e a modelagem. ETNOMATEMÁTICAS PELO BRASIL: aspectos teóricos, ticas de matema e práticas escolares. 1ed.São Paulo: Editora CRV, 2016, v. 1, p. 55-76.
8. Orey, D. C. Rosa, M.. A Etnomatemática, A Pedagogia Culturalmete Relevante e a Lei 10.639/03: uma perspectiva sociocultural no ensino e aprendizagem em matemática. In: Francisco de Assis Bandeira - Paulo Gonçalo Farias Gonçalves. (Org.). Etnomatemáticas pelo Brasil: aspectos teóricos, ticas de matema, e práticas escolares. 1ed.São Paulo: Editora CRV, 2016, v. 1, p. 145-170.
9. Orey, D. C. Discussing Mathematical Modeling Course in a Long Distance Course. In: CIENTEC. (Org.). Memorias 10 Festival Internacional de Matemática. 1ed.San José, Costa Rica: CIENTEC, 2016, v. 1, p. 26-35.