# Teoria dos Sistemas Sociais e Big Data (FCS732/832)

Prof. Antonio Brasil Jr.

Terças-feiras das 14h às 17h

## Ementa:

A teoria dos sistemas sociais, desenvolvida sobretudo a partir da obra de Niklas Luhmann, vem se revelando uma promissora candidata para lidar sociologicamente com o desafio do chamado “big data” – a disponibilidade em escala, velocidade e variedade cada vez maior de dados sobre múltiplas dimensões da vida social. De diferentes modos, os sociólogos sistêmicos contemporâneos vêm tentando conectar a complexa e abstrata arquitetura conceitual legada por Luhmann aos desafios teóricos, metodológicos e empíricos implicados por uma sociedade remodelada pela “revolução informacional”. Neste curso, procuraremos apresentar diferentes tentativas nesta direção.

## Introdução

### Aula 1

#### Leitura obrigatória:

STICHWEH, R. Luhmann, Niklas (1927-98). Em: **International Encyclopedia of the Social & Behavioral Sciences: Second Edition**. [s.l: s.n.]. p. 382–389.

#### Leitura complementar:

OCAMPO, S. P. Diadismo en los fundamentos sociológicos de Luhmann y Latour: comunicación y asociación comparadas. **Revista Española de Investigaciones Sociológicas (REIS)**, v. 155, n. 1, p. 133–167, 1 jul. 2016.

BECERRA, G.; RATOVICIUS, C. Social sciences and humanities on big data: a bibliometric analysis. **JISTEM - Journal of Information Systems and Technology Management**, v. 19, 22 abr. 2022.

## Parte 1: A “revolução informacional” na perspectiva da teoria dos sistemas sociais

### Aula 2

#### Leitura obrigatória:

KALLINIKOS, J. Information out of information: On the self-referential dynamics of information growth. **Information Technology and People**, v. 19, n. 1, p. 98–115, 2006.

MÁRTON, A. Self-Referential Technology and the Growth of Information. From Techniques to Technology to the Technology of Technology. **Soziale Systeme**, v. 15, p. 137–159, 1 maio 2009.

### Aula 3

#### Leitura obrigatória:

FORTE, M. Á. et al. Las TIC como problema de la teoría sociológica. Una aproximación conceptual a la comunicación digitalizada desde la teoría general de sistemas sociales autorreferenciales y autopoiéticos. **Revista de la Carrera de Sociología**, n. 2, p. 205–226, 2012.

OCAMPO, S. P. Digitalización y convergencia tecnológica desde el punto de vista sociológico de la teoría general de sistemas sociales. **Revista gestión de las personas y tecnología**, n. 13, p. 94–101, 2012.

OCAMPO, S. P. **La triple contingencia de la comunicación y el problema de la información dentro de los procesos de convergencia y divergencia de las TIC. Una problematización teórica desde la Teoría General de Sistemas Sociales**. IX Jornadas de Sociología. **Anais**...Buenos Aires: Facultad de Ciencias Sociales, Universidad de Buenos Aires, [s.d.].

#### Leitura complementar:

OCAMPO, S. P.; CALISE, S. **La comunicación-hacia-afuera como adquisición evolutiva de la persona en el medio digital**. Facultad de Ciencias Sociales, Universidad de Buenos Aires, 2015. Disponível em: <<https://www.aacademica.org/000-061/559>>. Acesso em: 23 ago. 2022

### Aula 4

#### Leitura obrigatória:

ESPOSITO, E. Comunicação artificial? A produção de contingência por algoritmos: A produção de contingência por algoritmos. **Revista Brasileira de Sociologia do Direito**, v. 9, n. 1, p. 4–21, 2022.

ESPOSITO, E.; SOLD, K.; ZIMMERMANN, B. Systems Theory and Algorithmic Futures: Interview with Elena Esposito. **Constructivist Foundations**, v. 16, n. 3, p. 356–361, 2021.

ESPOSITO, E. Algorithmic memory and the right to be forgotten on the web. **Big Data & Society**, v. 4, n. 1, p. 2053951717703996, 1 jun. 2017.

#### Leitura complementar:

ESPOSITO, E. Organizing without Understanding. **Zeitschrift für Literaturwissenschaft und Linguistik**, v. 47, n. 3, p. 351–359, 2017.

### Aula 5

#### Leitura obrigatória:

BAECKER, D. Niklas Luhmann in the Society of the Computer. **Cybernetics & Human Knowing**, v. 13, n. 2, p. 25–40, 1 jan. 2006.

BAECKER, D. Who Qualifies for Communication? **TATuP - Zeitschrift für Technikfolgenabschätzung in Theorie und Praxis**, v. 20, n. 1, p. 17–26, 2011.

#### Leitura complementar:

BAECKER, D. **Systemic Theories of Communication**. Rochester, NY, 1 mar. 2011. Disponível em: <<https://papers.ssrn.com/abstract=1865641>>. Acesso em: 24 ago. 2022

## Parte 2: Evolução sociocultural e o sistema científico

### Aula 6

#### Leitura obrigatória:

STICHWEH, R. Elementos-chave de uma teoria da sociedade mundial. **Sociedade e Estado**, v. 33, n. 2, p. 389–406, 2018.

STICHWEH, R. Evolutionary Theory and the Theory of World Society. **Soziale Systeme**, v. 13, n. 1–2, p. 528–542, 1 maio 2007.

STICHWEH, R. Evolution and Control of Society. **Nova Acta Leopoldina, Neue Folge**, v. 419, p. 109–115, 28 ago. 2017.

#### Leitura complementar:

STICHWEH, R. **Sociocultural Evolution and Social Differentiation. The Study of the History of Society and the Two Sociologies of Change and Transformation**. 2 jan. 2018.

ABRUTYN, S.; MCCAFFREE, K. Evolutionary Sociology. Em: RITZER, G. (Ed.). **The Blackwell Encyclopedia of Sociology**. Oxford, UK: John Wiley & Sons, Ltd, 2018. p. 1–10.

### Aula 7

#### Leitura obrigatória:

ESPOSITO, E. From self-reference to autology: how to operationalize a circular approach. **Social Science Information**, v. 35, n. 2, p. 269–281, jun. 1996.

STICHWEH, R. The Sociology of Scientific Disciplines: On the Genesis and Stability of the Disciplinary Structure of Modern Science. **Science in Context**, v. 5, n. 1, p. 3–15, 1992.

STICHWEH, R. Science in the system of world society. **Social Science Information**, v. 35, n. 2, p. 327–340, jun. 1996.

STICHWEH, R. Hierarchies and Universal Inclusion in Scientific Communities. Em: FORSBERG, E. et al. (Eds.). **Peer review in an Era of Evaluation: Understanding the Practice of Gatekeeping in Academia**. Cham: Springer International Publishing, 2022. p. 37–52.

#### Leitura complementar:

TASCHWER, K. Science as system vs. science as practice: Luhmann’s sociology of science and recent approaches in science and technology studies (STS)—a fragmentary confrontation. **Social Science Information**, v. 35, n. 2, p. 215–232, jun. 1996.

### Aula 8

#### Leitura obrigatória:

LEYDESDORFF, L. Knowledge-Based Innovations and Social Coordination. Em: LEYDESDORFF, L. (Ed.). **The Evolutionary Dynamics of Discursive Knowledge: Communication-Theoretical Perspectives on an Empirical Philosophy of Science**. Qualitative and Quantitative Analysis of Scientific and Scholarly Communication. Cham: Springer International Publishing, 2021. p. 1–35.

LEYDESDORFF, L. The Communication Turn in Philosophy of Science. Em: LEYDESDORFF, L. (Ed.). **The Evolutionary Dynamics of Discursive Knowledge: Communication-Theoretical Perspectives on an Empirical Philosophy of Science**. Qualitative and Quantitative Analysis of Scientific and Scholarly Communication. Cham: Springer International Publishing, 2021. p. 39–50.

LEYDESDORFF, L. Luhmann’s sociological theory: its operationalization and future perspectives. **Social Science Information**, v. 35, n. 2, p. 283–306, jun. 1996.

### Aula 9

#### Leitura obrigatória:

LEYDESDORFF, L.; JOHNSON, M. W.; IVANOVA, I. A. The communication of expectations and individual understanding: Redundancy as reduction of uncertainty, and the processing of meaning. **Kybernetes**, v. 43, n. 9/10, p. 1362–1371, 1 jan. 2014.

LEYDESDORFF, L. Scientific Communication and Codification. Em: LEYDESDORFF, L. (Ed.). **The Evolutionary Dynamics of Discursive Knowledge: Communication-Theoretical Perspectives on an Empirical Philosophy of Science**. Qualitative and Quantitative Analysis of Scientific and Scholarly Communication. Cham: Springer International Publishing, 2021. p. 51–65.

LEYDESDORFF, L. Towards a Calculus of Redundancy. Em: LEYDESDORFF, L. (Ed.). **The Evolutionary Dynamics of Discursive Knowledge: Communication-Theoretical Perspectives on an Empirical Philosophy of Science**. Qualitative and Quantitative Analysis of Scientific and Scholarly Communication. Cham: Springer International Publishing, 2021. p. 67–86.

### Aula 10

#### Leitura obrigatória:

LUCIO-ARIAS, D.; LEYDESDORFF, L. An indicator of research front activity: Measuring intellectual organization as uncertainty reduction in document sets. **Journal of the American Society for Information Science and Technology**, v. 60, n. 12, p. 2488–2498, 1 dez. 2009.

LUCIO-ARIAS, D.; LEYDESDORFF, L. Main-path analysis and path-dependent transitions in HistCiteTM-based historiograms. **Journal of the American Society for Information Science and Technology**, v. 59, n. 12, p. 1948–1962, 2008.

BORNMANN, L.; LEYDESDORFF, L. Historical roots of Judit Bar-Ilan’s research: a cited-references analysis using CRExplorer. **Scientometrics**, v. 123, n. 3, p. 1193–1200, 1 jun. 2020.

LEYDESDORFF, L.; CARLEY, S.; RAFOLS, I. Global maps of science based on the new Web-of-Science categories. **Scientometrics**, v. 94, n. 2, p. 589–593, 1 fev. 2013.

## Parte 3: Sistemas, redes e complexidade

### Aula 11

#### Leitura obrigatória:

CALISE, S. G. Social Networks and Systems Theory. **Sotsiologicheskoe Obozrenie / Russian Sociological Review**, v. 20, n. 1, p. 72–88, 2021.

FUHSE, J. A.; GONDAL, N. Networks from culture: Mechanisms of tie-formation follow institutionalized rules in social fields. **Social Networks**, 8 jan. 2022.

FUHSE, J. A. Networks from communication. **European Journal of Social Theory**, v. 18, n. 1, p. 39–59, 1 fev. 2015.

### Aula 12

#### Leitura obrigatória:

FUHSE, J. **Social Networks of Meaning and Communication**. Oxford, New York: Oxford University Press, 2021. *Capítulos a definir*

### Aula 13

#### Leitura obrigatória:

FUHSE, J. **Social Networks of Meaning and Communication**. Oxford, New York: Oxford University Press, 2021. *Capítulos a definir*

### Aula 14

#### Leitura obrigatória:

BASOV, N.; BREIGER, R.; HELLSTEN, I. Socio-semantic and other dualities. **Poetics**, Discourse, Meaning, and Networks: Advances in Socio-Semantic Analysis. v. 78, p. 101433, 1 fev. 2020.

FUHSE, J. et al. Relating social and symbolic relations in quantitative text analysis. A study of parliamentary discourse in the Weimar Republic. **Poetics**, Discourse, Meaning, and Networks: Advances in Socio-Semantic Analysis. v. 78, p. 101363, 1 fev. 2020.

HELLSTEN, I.; OPTHOF, T.; LEYDESDORFF, L. N-mode network approach for socio-semantic analysis of scientific publications. **Poetics**, Discourse, Meaning, and Networks: Advances in Socio-Semantic Analysis. v. 78, p. 101427, 1 fev. 2020.

ROTH, C.; BASOV, N. The socio-semantic space of John Mohr. **Poetics**, Discourse, Meaning, and Networks: Advances in Socio-Semantic Analysis. v. 78, p. 101437, 1 fev. 2020.

### Aula 15

Balanço do curso