

ANTONIO FASANO

List of Scientific Publications

A - RESEARCH PAPERS

1. A. FASANO, Studio della distribuzione di temperatura in un involucro sferico omogeneo in moto traslatorio su un'orbita assegnata con condizioni termiche discontinue sul contorno, REND. IST. LOMB. ACCAD. SCI. LET. (A) 101 (1967), 65-74
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4. A. FASANO, Stime a priori per le soluzioni di un problema di tipo parabolico con condizioni al contorno non lineari., REND. IST. MAT. UNIV. TRIESTE 3 (1971), 1-12
5. A. FASANO, Sulla inversione di un classico problema di diffusione del calore. LE MATEMATICHE 26 (1971), 1-12
6. A. FASANO, Un esempio di controllo ottimale in un problema del tipo di Stefan., BOLL. UN. MAT. ITAL. (4) 4 (1971), 846-858
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14. A. FASANO, Alcune osservazioni su una classe di problemi a contorno libero per l'equazione del calore, *LE MATEMATICHE* 29 (1974), 1-15
15. C. BONACINA, G. COMINI, A. FASANO, M. PRIMICERIO, On the estimation of thermophysical properties in nonlinear heat-conduction problems, *INT. J. HEAT MASS TRANSFER* 17 (1974), 861-867
16. A. FASANO, M. PRIMICERIO, Dipendenza continua della temperatura dai coefficienti termici in problemi di conduzione non lineari, *BOLL UN. MAT. ITAL. IV/9* (1974), 93-103
17. A. FASANO, M. PRIMICERIO, Viscoplastic impact of a rod on a wall, *BOLL. U.M.I.* (4) 11 (1975), 531-553
18. A. FASANO, M. PRIMICERIO, One-phase and two-phase free boundary problems of general type for the heat equation, *REND. ACCAD. NAZ. LINCEI* (8) 57 (1975), 387-390
19. J.R. CANNON, A. FASANO, A nonlinear parabolic free boundary problem, *ANN. MAT. PURA APPL.* (4) 112 (1975), 119-148
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NOTE . Original research papers presented at conferences: 50, 52, 53, 57-59, 61-64, 71, 75-77, 79-84, 90, 104, 110, 115, 120, 121, 128, 148, 171, 211.

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B - INVITED TALKS AND REVIEW PAPERS - BOOK CHAPTERS

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 41. M. MARGARONE, R. BAGATIN, C. BUSTO, P. D'OLIMPIO, L. FUSI, L. FAIENZA, A. FASANO, M PRIMICERIO. A wax crystallization model from DSC experiments, (poster).
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 43. A. FASANO, R. SANTOS, A. SEQUEIRA. Blood coagulation: a puzzle for biologists, a maze for mathematicians. In *MODELLING PHYSIOLOGICAL FLOWS* - D. Ambrosi, A. Quarteroni, G. Rozza (Editors), Springer Italia Chapt. 3, (2011) 44-77, DOI 10.1007/978-88-470-1935-53

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NOTE: B30, B43, B49 are BOOK CHAPTERS.

NOTE: papers listed under A # 92, 102, 107 are also surveys, but contain original results.

B1 - INTERNAL REPORTS

1. A. Fasano. On the so-called antenna effect. FIAB internal report 2019/1.
2. A. Fasano, R. Cioni. Temperatura in filamenti percorsi da corrente (progettazione Cauteri). FIAB internal report 2018/1.
3. A. Fasano, R. Cioni. Considerazioni teoriche sulla misura della bioimpedenza. FIAB internal report 2019/2.

4. A. Fasano. Prevenzione delle lesioni esofagee nelle procedure di ablazione per il trattamento della fibrillazione atriale: risultati recenti. FIAB internal report 2019/3.

5. A. Fasano, L. Anfuso. A critical review of the literature on esophageal temperature monitoring during catheter ablation procedures. FIAB internal report 2020/2

6. A. Fasano, M. Corsi. Essential features of systems monitoring the esophageal luminal temperature during cardiac ablation procedures. FIAB internal report 2020/1
7. A. Fasano. Stationary temperature in a needle partially inserted in a partially heated body. FIAB internal report 2020/3
8. A. Fasano. Analysis of the literature concerning esophageal thermal monitoring during cardiac ablation (report for FDA). 2021/1
9. A. Fasano. Are the sensors of the FIAB Esotherm Multi esophageal probe rightly spaced? 2021/2
10. A. Fasano. About the FIAB Esotherm Multi esophageal probe interelectrode distance. 2022/1
11. A. Fasano. Rationale about devices lifetime. 2022/2
12. A. Fasano. About Sensitherm alarm thresholds. 2022/3
13. A. Fasano, M. Corsi. Esophageal temperature monitoring: State of the art. 2022/4
14. A. Fasano. Area of the lobed cross section of tubes for oxygen therapy. 2022/5
15. M. Corsi, A. Fasano. State of the art in monitoring esophageal temperature. 2022/6
16. A. Fasano. P. Martino. State of the art in electrosurgery. 2022/7

C - BOOKS

1. A. FASANO, M. PRIMICERIO (editors), Free boundary problems: theory and applications, PITMAN'S RES. MATH. NOTES , Vol.78 & 79, Pitman, London (1983)
2. A. FASANO, M. PRIMICERIO (editors), CIME Course on "Nonlinear Problems in Diffusion", SPRINGER LECT. NOTES MATH. 1224 (1986)
3. A. FASANO, V. CAPASSO (editors), CIME Course on "Mathematical Modelling of Industrial Processes", SPRINGER LECT. NOTES MATH. 1521 (1990).
4. A. FASANO, M. PRIMICERIO (editors), Proc. VII ECMI Conference (Montecatini 1993), B.G. Teubner Stuttgart 1994.
5. A. FASANO (editor), CIME Course on "Filtration through porous media with industrial applications", SPRINGER LECT. NOTES MATH. 1734 (2000)
6. A. FASANO (editor). Complex flows in industrial processes. Birkhäuser, MSSET (2000)
7. A. FASANO (editor). Mathematical Models in the Manufacturing of Glass. CIME Lecture Notes in Mathematics, 2010, Springer (2011). ISBN 9783642159664
8. A. FASANO, A. SEQUEIRA. Hemomath: The Mathematics of Blood. Springer Series Modeling Simulations and Applications, Vol. 18, A. Quarteroni Editor (2017).

D - LECTURE NOTES

1. A. FASANO, Las Zonas Pastosas en el Problema de Stefan, CUAD. IST. MAT. "BEPPPO LEVI" 13 (1986)
2. A. FASANO, Free Boundary Problems and their Applications, Lecture Notes, SASIAM, Bari (1989)
3. A. FASANO, Some free boundary problems with industrial applications, 29^e Session Seminaire de Mathematiques Superieures, M.Delfour ed., Montreal NATO-ASI Series C: Math. Phys. Sci. 380 (1992) 113-142
4. A. FASANO, Some non-standard one-dimensional filtration problems. Bull. Fac. Ed. Chiba Univ. 44 (1996) 5-29.
5. A. FASANO, Filtration problems in various industrial processes, in "Filtration through porous media and industrial applications", A. FASANO ed., Springer Lect. Notes Math. 1734 (2000)
6. A. FASANO. Mathematical modelling in polymer science. Summer Course in Industrial Mathematics, Lisbon, 1999.
7. A. FASANO. Mathematical models of some diffusive processes with free boundaries. MAT (Rosario, Argentina 2006) and e-Lecture Notes SIMAI, 1 (2008)
8. A. FASANO. Parabolic Free Boundary Problems in Industrial and Biological Applications. SIMAI e-Lecture Notes ISSN1970-4429, 9 (2011) ISBN-A: 10.978.88905708/89

E - TEXTBOOKS

1. A. FASANO, V. DE RIENZO, A. MESSINA, Corso di Meccanica Razionale per il Biennio di Ingegneria, Laterza, Bari, I ed. 1978, II ed. 1982, III ed. 1986, IV ed. 1989, V ed. 1994, VI ed. 1998
2. A. FASANO, S. MARMI, Meccanica Analitica con elementi di Meccanica Statistica e dei Continui, Bollati-Boringhieri, Torino, 1994.
3. A. FASANO, S. MARMI, Meccanica Analitica (nuova edizione). Bollati-Boringhieri, Torino, 2002
4. A. FASANO, S. MARMI, Analytical Mechanics, Oxford University Press (2006). Second (revised) edition 2013.

<p>PAPERS CLASSIFICATION BY SUBJECT (if not differently specified numbers refer to the list A)</p>

1. Heat and/or mass transfer (no phase change)

1, 2, 51 + 2B1

2. Parabolic equations (initial-boundary value problems)

4, 7, 12, 16, 20, 92, 106, 164 (general theory) 2B, 2C

3. Stefan problem and phase-change

(see also: Inverse problems; Numerical methods; Food Industry)

6, 8, 10, 11, 13, 15, 20, 26, 30, 35, 86, 93, 155 + 1C, 2D, 3D, 7D

22, 32 (regularity)

33 (with concentrated capacity)

36, 52, 55 (with supercooling) + 9B

39 (irreversible)

40, 41, 48, 71 (mushy regions) + 3B, 1D

94 (freezing of dispersions)

133, 138, 143 + 37B (frying)

153 (carburizing of steel)

178, 184, 214 (geothermal reservoirs)

4. Numerical methods for parabolic problems

3, 10, 11, 13

5. Inverse problems, control

5, 6

6. Other free boundary problems

(see also Fluid dynamics, Polymers, Porous media, Appl. to Medicine)

9, 38, 46, 54, 174 (chemical reactions + combustions), 200 (vasomotion)

14, 18, 23, 24, 25, 34, 37 (general) + 1B, 5B

27, 28 (with Cauchy data)

92 (two-scale)

17 (viscoplastic impact)

120, 121, 131, 135, 137, 148, 149 (wax deposition in crude oils)

135, 168 (elastic materials with thresholds in constitutive equations) + 34B, 38B

163 (elastic-rigid materials) 169 (bone growth)

7. Astronomy

1, 2 (heat transfer in satellites)
21 (micrometeorites)
56, 58, 66 (outgassing)

8. Porous media

(see also **Composites, Food Industry, Filters**)

29, 85 + 26B, 42B, 3C, 5C, 4D, 5D
45, 70 (ground freezing, thawing), 179 (liquid-vapour)+ 4B
95, 102, 105, 113, 117 (diapers)
127, 156, 158, 176 + 36B (bioremediation)
119 (rain infiltration in soils)
164, 169 (flows with mass exchange) 161, 176 (erosion)
171, 172, 177, 182 (water filtering) + 42B, 44B
178, 184, 214 (geothermal reservoirs)

9. Composites

109, 114, 116, 122 +10B, 14B

10. Fluid dynamics

53, 59, 63, 75, 79 (Coal Water Slurries) + 12B, 18B, 6C
69 (Bingham)
64, 67, 98 (Hele-Shaw)
154, 160 (glass fibers manufacturing)
180, + 44B (porous ducts)
194 peristalsis
195 tapered partially porous tubes
200, 201, 205, 210, 219 vasomotion

11. Oil industry – Geothermal energy

89, 120, 121, 125, 131, 135, 148, (Waxy Crude Oils) + 11B, 12B, 27B, 33B, 35B, 40B, 41B
178, 184 (geothermal reservoirs)

12. Polymers

42, 43 (swelling of glassy polymer) + 2B
61, 62, 74, 78, 81, 82, 87, 100 (polymer crystallization) + 6B, 13B, 15B, 17B, 6C, 6D
88, 90, 101, 107, 115, 132 (polymerisation) + 17B, 24B, 6C, 6D

13. Dispersions

97, 103, 110, 123, 124, 128 +19B, 20B, 22B

14. Population dynamics, Farmacokinetics, Chemotaxis

57, 65, 72, 73, 83, 118, 181, 188

15. Applications to Medicine

Tumour growth: 104, 108, 111, 112, 116, 129, 130, 134, 136, 144, 146, 147, 150, 151, 157, 159, 165, 166, 167, 174, 187, 191, 198, 213 + 21B, 23B, 25B, 28B, 30B, 39B, 45B, 46B, 48B

Tumor angiogenesis: 213 + 55B

Blood clotting: 152, 186, 192, 193, 221 + 42B, 53B

Bones growth: 169, 47B

Dialyzers: 179, 189, 202, 220 + 53B

Kidneys: 185, 218 + 53B

Pulmonary Veins Isolation (atrial fibrillation treatment): 190, 198, 197, 199, 203, 206, 207, 208, 209, 215, 216 + 50B, 51B, 52B, 1B1, 4B1

Blood circulation: 185, 200, 201, 205, 210, 212, 217, 218, 219, 222 + 53B

Bio-impedance: 3B1

16. Food Industry.

76, 77, 80, 84, 91, 96 (coffee) + 16B

133, 138, 143 (frying) + 37B

17. Industrial Mathematics (general)

29B, 31B, 3C, 4C, 5C, 6C,

18. Filters

171, 172, 175, 177, 183

19. Marble degradation

145 + 32B

20. History of Medicine

211 + 54B